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EXAMINER

ZHAO, YU

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/586,534	Applicant(s) NOMURA, TAKASHI	
	Examiner YU ZHAO	Art Unit 2169	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on November 10, 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on **November 10, 2010** has been entered.

Response to Amendment

2. Acknowledgment is made of applicant's amendment filed on **November 10, 2010**.

Claims 1-13 are presented for examination.

Claims 1-3, 5, 7, 8, 10 and 13 are amended.

Claim Objections are withdrawn in light of amendment by the applicant(s).

Response to Argument

3. Applicant's arguments filed in the amendment filed on **November 10, 2010**, have been fully considered but they are not deemed persuasive:

Applicant argues that, "With regard to claim 8, the Office Action states that the meaning of the "non-target index" is unclear. The Applicant is amending claim 8 to clarify that the non-target index indicates that "the non-target index indicates that each

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set of update search data that includes the non-target index is not to be compared in a subsequent index-based search." Support for this amendment can be found at least in paragraphs [0045] and [0057] of the original specification."

The term and function of "non-target index" are still not clear. Claim 3 has discloses the update search data has one search index and is used to search the update search data. Claim 8 further recites "...adds a non-target index to each set of update search data..." where another index (e.g. "non-target index") has been created. It is not clear to the examiner whether the system creates another index or the system modifies the old search index?

Applicant argues that, "...Tanaka fails to teach or suggest executing "a substance data search by using a tree-based search based on the search tree data of the initial search data and an index-based search using the index of the update substance data," as recited in claim 1 (emphasis added). On the contrary, as the Office Action acknowledges, Tanaka does not disclose update substance data that have an index as a search key, or using the index to execute an index-based search..."

Examiner respectfully disagrees. The claims merely recites an index, it does not clearly recite it is a "non-tree index". The claims only recite the update substance data are stored in a non-tree structure. The sets of data do not store in the tree structure, does not explicitly indicate their index is not a tree index. Index is used to find the data that is stored on the storage device, regardless what structure the data is stored with.

For example, there are 1000 documents (i.e. data is stored in document structure such as DOC and XML), these documents can still be indexed in tree structure.

Applicant argues that, "In addition, the Applicant submits that Miyahara fails to remedy the deficient teachings of Tanaka. Miyahara merely discloses that map data includes a group of layers, each of which is divided into blocks (§ [0081]). To update the map data, individual layers or blocks may be replaced with new data (§ [0083]). Therefore, Miyahara does not teach or suggest providing initial search data and update search data separately, as recited in claim 1. Further, as the Office Action acknowledges, Miyahara fails to teach or suggest executing "a substance data search by using a tree-based search based on the search tree data of the initial search data and an index-based search using the index of the update substance data," as recited in claim 1."

Examiner respectfully disagrees. Tanaka et al. (US 2002/0013658), page 2, paragraph [0039], discloses "...The control unit 8 retrieves the name and data of the registered location at step 301 in the similar manner as at step 101 (FIG. 3). The control unit 8 then **forms a new search list** at step 302 to add the name of the memory location **separately from the original search list...**" paragraph [0040], "...The control unit 8 retrieves the input location name at step 401 in the similar manner as at step 201 (FIG. 5), and **searches for the target location** from the input location name at step 402 by **using both** the original (normal) search list and the new search list..." The above cited paragraphs from Tanaka show that the control unit searches both original search list and new search list.

Claim Objections

4. **Claim 8** is objected to because of the following informalities:

Claim 8 recites “non-target index” which is not clear. It leaves the examiner in doubt as to the meaning of the features to which they refer.

For the above objections, appropriate clarifications are required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1-5 and 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. (U.S. Pub. No.: US 2002/0013658 A1, hereinafter, Tanaka), in view of Miyahara (U.S. Pub. No.: U.S. 2003/0028316), and further in view of Bourdoncle et al. (U.S. Pub. No.: US 2002/0052894 A1, hereinafter Bourdoncle) and further in view of Umezu et al. (U.S. Patent No.: US 6,980,907, hereinafter Umezu).**

Claim 1 is rejected as substantially similar as claim 3, for the similar reasons.

For claim 3, Tanaka discloses a search data update system, comprising:

a navigation apparatus that uses search data (Tanaka: paragraph [0007], “to provide a navigation system, in which registered locations input by users can be made a subject of an alphabet-based search”,

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paragraph [0008], “to provide a navigation system, in which registered locations input by users can be made a subject of a facility search or a surroundings search based on a facility type-based search.”); and

a search data providing apparatus that provides update search data to the navigation apparatus to be used to update initial search data (Tanaka: page 2, paragraph [0035]), wherein:

the navigation apparatus includes a storage device at which the initial search data constituted with search tree data having a tree structure and a plurality of sets of initial substance data each specified based upon the search tree data are stored, and an update data obtaining device that obtains the update search data from the search data providing apparatus, wherein the initial substance data include facility information (Tanaka: page 1, paragraph [0003], “In a navigation system...location names of various facilities are preliminarily stored as a search list and a target location is searched from an input location name by the use of the search list. This search is conducted alphabetically in Japanese 50-alphabet system...”, paragraph [0009], “...has a rewritable memory which originally stores data of a plurality of locations...the navigation system registers and stores data of the new location in the *rewritable memory* in addition to the data of the plurality of locations...”, page 2, paragraph [0029], “...retrieving the map

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data from a *map data memory medium...*, paragraph [0032], "...For registering the new location...This specified location is registered as a *memory location...*", paragraph [0038], "a *memory location* is registered in a search list separate from an original search list, which pre-stores names of locations such as facilities, in place of updating an original search list (first embodiment)");

the update search data are provided in units of individual sets of update substance data, wherein the update substance data include attached thereto an index as a search key to be used in a search in correspondence to each set of update substance data, do no include data specified based upon the search tree data, and include facility information (Tanaka: page 2, paragraph [0032], "A new location is registered ...This specified location is registered as a memory location." paragraph [0038], "a *memory location* is registered in a search list separate from an original search list, which pre-stores names of locations such as facilities, in place of updating an original search list (first embodiment)", page 3, paragraph [0047], "retrieves at step 501 the data of name, area and facility type of the new location specified by the user as well as the location data such a coordinate specified by the cursor. The control unit 8 then updates the search list a step 502 with those new retrieved data.", page 3, paragraph [0044], "The surrounding location may be limited to be within a fixed radius from the

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specified location.”, .”, page 2, paragraph [0039], “...the control unit 8 then forms a new search list...**separately** from the original search list”);

upon obtaining the update search data from the search data providing apparatus, the update data obtaining device stores the obtained update search data into the storage device separately from the initial search data (Tanaka: page 1, paragraph [0009], “a navigation system has a rewritable memory which originally stores data of a plurality of locations. When a user inputs a new location other than the plurality of locations, the navigation system registers and stores data of the new location in the rewritable memory in addition to the data of the plurality of locations.”, page 2, paragraphs [0033]-[0040], “...The control unit 8 retrieves the name and data of the registered location at step 301 in the similar manner as at step 101 (FIG. 3). The control unit 8 then forms a new search list at step 302 to add the name of the memory location separately from the original search list. Specifically, as shown in FIG. 7B, a new search tree is formed in the new search list in addition to the original search tree shown in FIG. 7A, when "A RA KI SA N TA KU" in Japanese (Mr. Araki's home in English) is registered as the name of the memory location...”); **and**

the navigation apparatus further includes a search device that executes a substance data search by using both the search tree data the initial search data stored in the storage device to execute a tree-based search and using the index attached to each set of update substance data of the update search data stored in the storage device to conduct an index-based search, in correspondence to input of a character for search (Tanaka: page 1, paragraph [0009], page 2, paragraph [0032], “A new location is registered by the control unit 8 as shown in FIG. 3. For registering the new location”, paragraph [0033], “The control unit 8 retrieves the name and data of the registered location at step 101.” page 2, paragraphs [0033]-[0040], (note: “information to be used” can be broadly interpreted as ANY information and data: e.g. search tree data)).

However, Tanaka does not explicitly disclose the update search data are provided in units of individual sets of update substance data, wherein the update substance data include attached thereto an index as a search key.

Miyahara discloses the update search data are provided in units of individual sets of update substance data, wherein the update substance data include attached thereto an index as a search key (page 1, paragraph [0010], “producing the map data divided into a plurality of sets of map data that are mutually-independent set by set, the divided map data being stored in the server”).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to improve upon "Navigation system and method capable of registering new locations" as taught by Tanaka by implementing "Satellite navigation system of which map data are partially updateable" as taught by Miyahara, because it would provide Tanaka's system with the enhanced capability of "to greatly reduce an amount of data to be re-loaded when map data is updated." (Miyahara: page 1, paragraph [0010]).

However, Tanaka and Miyahara do not explicitly disclose the navigation apparatus further includes a search device that executes a substance data search by using both the search tree data the initial search data stored in the storage device to execute a tree-based search and using the index attached to each set of update substance data of the update search data stored in the storage device to conduct an index-based search.

Bourdoncle discloses a search device that executes a substance data search by using both the search tree data the initial search data stored in the storage device to execute a tree-based search and using the index attached to each set of update substance data of the update search data stored in the storage device to conduct an index-based search (Bourdoncle et al.: page 1, paragraph [0008], "...There is also proposed a search among site categories. Such a search is actually an independent category search in a separate database. The results of the search are displayed to the user under the list of related searches. The results are

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displayed as a list of documents or sites...” page 3, paragraph [0042], “...selection of sites or documents among a database of indexed or partially indexed documents or sites, may be carried out in any way known in the art.” pages 5-6, paragraph [0070], “The database being provided...It is advantageous that the categories be organized in a tree structure for ease of navigation among the categories.”).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to improve upon “Navigation system and method capable of registering new locations” as taught by Tanaka by implementing “Searching tool and process for unified search using categories and keywords” as taught by Bourdoncle, because it would provide Tanaka and Miyahara’s system with the enhanced capability of “...There is also proposed a search among site categories. Such a search is actually an independent category search in a separate database.” (Bourdoncle: paragraph [0008]).

Tanaka, Miyahara and Bourdoncle do not explicitly disclose the update substance data are stored in a non-tree structure.

Umezu discloses the update substance data are stored in a non-tree structure (Umezu: column 5, line 64 – column 6, line 2 “FIG. 8 is a diagram illustrating a format of the differential update data. Just as the map data, the differential update data consists of files,

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each of which includes one type of data. Each file contains header information and a plurality of update data #0-#n.”),

It would have been obvious to one of ordinary skill in the art at the time the invention was made to improve upon “Navigation system and method capable of registering new locations” as taught by Tanaka by implementing “Map data processing unit” as taught by Umezu, because it would provide Tanaka, Miyahara and Bourdoncle’s modified system with the enhanced capability of “a batch update section for collectively updating all the map data to the latest version map data in accordance with the update data fed from the update data input section; a dynamic update section for updating the map data to the latest version map data in accordance with the update data fed from the update data input section every time the map data becomes necessary; an update method selecting section for selecting one of the batch update section and dynamic update section in response to the update data; and a map data” (Umezu: column 1, lines 56-67) and “...the map data processing unit can switch the update method between the batch update and the dynamic update in response to the update data. As a result, it offers an advantage of being able to perform the update to the latest version map data without affecting the operation speed of the navigation, with minimizing the time of precluding the use of the navigation.” (Umezu: column 2, lines 1-7).

Claim 13 is rejected as substantially similar as claim 3, for the similar reasons.

For claim 2, Tanaka discloses an modified update method performed by a server and a control device of a navigation apparatus for updating search data used in a navigation apparatus according to claim 1, further comprising:

storing, by the control devices, the second substance data having the index as the update data in the navigation apparatus separately from the initial search data (Tanaka: page 1, paragraph [0009], "...originally stores data of a plurality of locations. When a user inputs a new location other than the plurality of locations, the navigation system registers and stores data of the new location in the rewritable memory in addition to the data of the plurality of locations...", page 3, paragraph [0047], "retrieves at step 501 the data of name, area and facility type of the new location specified by the user as well as the location data such a coordinate specified by the cursor. The control unit 8 then updates the search list a step 502 with those new retrieved data.", page 2, paragraphs [0033]-[0040]).

For claim 4, Tanaka discloses a modified search data update system according to claim 3, wherein:

upon obtaining new update search data, the update data obtaining device in the navigation apparatus sorts entire update search data including the new update search data and the update search data already stored in the storage device based upon the index to be used in a search and stores the sorted update

search data in the storage device (Tanaka: page 1, paragraphs [0009], [0010], page 2, paragraph [0031], "...search list is stored in the form of search tree so that the target location is searched for in the Japanese alphabetical order...", paragraph [0035], "searches for the target location from the input location name at step 202 by using the *updated search list.*", paragraph [0039], where "second storage device" is read on "rewritable memory").

For claim 5, Tanaka discloses a modified search data update system according to claim 3 wherein:

the navigation apparatus further includes a control device that executes navigation processing including route search and route guidance by using the initial or update substance data obtained via the search device (Tanaka: page 1, paragraphs [0003], [0004], page 2, paragraph [0030]).

For claim 9, Tanaka discloses a modified search data update system according to claim 3, wherein:

the update data obtaining device in the navigation apparatus transmits to the search data providing apparatus information indicating a range of search data to be updated; and if update search data are available over the range of search data to be updated indicated in the received information, the search data providing apparatus provides the update search data over the range to the navigation apparatus (Tanaka: page 3, paragraph [0044], "The surrounding location may be limited to be within a fixed radius from the

specified location.”, where “may be limited” indicates it can update over a fixed radius, page 2, paragraph [0032], page 3, paragraphs [0045]- [0047]).

For claim 10, Tanaka discloses a modified search data update system according to claim 3.

However, Tanaka does not explicitly disclose wherein: the update data obtaining device in the navigation apparatus transmits to the search data providing apparatus information related to a version of the update data stored in the second storage device; and if a newer version of update substance data than the version indicated in the received information is available, the search data providing apparatus provides the update search data corresponding to the newer version of the update substance data to the navigation apparatus.

Miyahara discloses wherein: the update data obtaining device in the navigation apparatus transmits to the search data providing apparatus information related to a version of the update data stored in the second storage device (Miyahara: page 6, paragraphs [0096] and [0097]); and if a newer version of update substance data than the version indicated in the received information is available, the search data providing apparatus provides the update search data corresponding to the newer version of the update substance data to the navigation apparatus (Miyahara: page 6, paragraphs [0096]-[0098]).

For claim 11, Tanaka discloses a modified navigation apparatus in a search data update system according to claim 3 (Tanaka: page 1, paragraph [0007], page 2, paragraphs [0029]-[0030]).

For claim 12, Tanaka discloses a modified search data providing apparatus in a search data update system according to claim 3 (Tanaka: page 2, paragraphs [0029]-[0030]).

6. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. (U.S. Pub. No.: US 2002/0013658 A1, hereinafter, Tanaka), in view of Miyahara (U.S. Pub. No.: U.S. 2003/0028316) and further in view of Bourdoncle et al. (U.S. Pub. No.: US 2002/0052894 A1, hereinafter Bourdoncle) and further in view of Umezu et al. (U.S. Patent No.: US 6,980,907, hereinafter Umezu) as applied to claim 3 above, and further in view of Saito et al. (U.S. Pub. No.: US 2003/0140309 A1, hereinafter, Saito)

For claim 6, Tanaka discloses a modified search data update system according to any claim 3.

However, Tanaka does not explicitly disclose wherein: once a number of sets of update search data having been obtained becomes equal to or greater than a predetermined value, the update data obtaining device in the navigation apparatus provides an audio output or a display output notifying that the number of sets of update search data is equal to or greater than the predetermined value.

Miyahara discloses wherein: once a number of sets of update search data having been obtained becomes equal to or greater than a predetermined value, the update search data obtaining device in the navigation apparatus that the number of sets of update data is equal to or greater than the predetermined value (Miyahara: page 6, paragraphs [0096]-[0098]).

However, Tanaka, Miyahara and Bourdoncle do not explicitly disclose providing an audio output or a display output notifying that the number of sets of update data is equal to or greater than the predetermined value.

Saito discloses providing an audio output or a display output notifying (Saito: pages 11-12, paragraph [0203]-[0206]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to improve upon "Navigation system and method capable of registering new locations" as taught by Tanaka by implementing "Information processing apparatus, information processing method, storage medium, and program" as taught by Saito, because it would provide Tanaka's modified system with the enhanced capability of "for the user to update the database at any time desired." (Saito: page 11, paragraph [0201]).

Claim 7 is rejected as substantially similar as claim 6, for the similar reasons.

Further, Tanaka discloses obtains a new version of initial search data comprising new search tree data and a new plurality of sets of initial substance data containing update substance data in the update search data search specified based upon the new search tree data and stores the new version of initial search data thus obtained into the storage device. (Tanaka: Fig. 4).

7. **Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. (U.S. Pub. No.: US 2002/0013658 A1, hereinafter, Tanaka), in view of Miyahara (U.S. Pub. No.: U.S. 2003/0028316) and further in view of Bourdoncle et**

al. (U.S. Pub. No.: US 2002/0052894 A1, hereinafter Bourdoncle) and further in view of Umezu et al. (U.S. Patent No.: US 6,980,907, hereinafter Umezu) as applied to claim 5 above, and further in view of Hanon et al. (U.S. Pub. No.: US 2003/0231163, hereinafter, Hanon).

For claim 8, Tanaka discloses a modified search data update system according to claim 5.

However, Tanaka does not explicitly disclose wherein: the navigation apparatus further includes an input device with which a search key can be entered one character at a time, wherein: in correspondence to each character entered via the input device, the search device advances a search executed by using the search tree data, compares the character with the information to be used in a search, which is contained in each of a plurality of sets of update search data stored in the storage device, and adds a non-target index to each set of update search data which has been determined not to be a search target based upon comparison results, wherein the non-target index indicates that each set of update search data that includes the non-target index is not to be compared afterwards in a subsequent index-based search.

Hanon discloses wherein: the navigation apparatus further includes an input device with which a search key can be entered one character at a time, wherein: in correspondence to each character entered via the input device, the search device advances a search executed by using the search tree data, compares the character with the information to be used in a search, which is

contained in each of a plurality of sets of update search data stored in the storage device, and adds a non-target index to each set of update search data which has been determined not to be a search target based upon comparison results results, wherein the non-target index indicates that each set of update search data that includes the non-target index is not to be compared afterwards in a subsequent index-based search (Hanon: pages 8-9, paragraph [0106] and [0109]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to improve upon "Navigation system and method capable of registering new locations" as taught by Tanaka by implementing "Interface for a multifunctional system" as taught by Hanon, because it would provide Tanaka's modified system with the enhanced capability of "attempts to complete the city or state name based on the letters input by the user." (Hanon: page 8, paragraph [0109]).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YU ZHAO whose telephone number is (571)270-3427. The examiner can normally be reached on Monday-Friday 7:30am-5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tony Mahmoudi can be reached on (571) 272-4078. The fax phone number for the organization where this application or proceeding is assigned is 571-270-4427.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Date: 1/28/2011

/Yu Zhao/

Examiner, Art Unit 2169

/Tony Mahmoudi/

Supervisory Patent Examiner, Art
Unit 2169